

WHAT IS CLAIMED:

1. An isolated *Aquifex* delta prime subunit of a DNA polymerase III-type enzyme, the isolated delta prime subunit:
 - (i) comprising the amino acid sequence of SEQ ID NO: 126; or
 - (ii) being encoded by a nucleic acid molecule hybridizing to the complement of SEQ ID NO: 125 under hybridization conditions comprising at most about 0.9M sodium citrate buffer at a temperature of at least about 37°C.
2. The isolated *Aquifex* delta prime subunit according to claim 1 wherein the *Aquifex* species is *Aquifex aeolicus*.
3. The isolated *Aquifex* delta prime subunit according to claim 2 wherein the delta prime subunit comprises the amino acid sequence of SEQ ID NO: 126.
4. The isolated *Aquifex* delta prime subunit according to claim 1 wherein the delta prime subunit is encoded by a nucleic acid molecule that hybridizes to the complement of SEQ ID NO: 125 under hybridization conditions comprising at most about 0.9M sodium citrate buffer at a temperature of at least about 37°C.
5. The isolated *Aquifex* delta prime subunit according to claim 1 wherein the delta prime subunit is purified.
6. A clamp loader complex comprising the *Aquifex* delta prime subunit according to claim 1.
7. A DNA polymerase III-type enzyme complex comprising the clamp loader according to claim 6.
8. A kit comprising:
 - a container that contains therein either a deoxynucleoside triphosphate or a dideoxynucleoside triphosphate; and
 - a container that contains therein the DNA polymerase III-type enzyme complex according to claim 7.